

Related Fact Houses

Reporting Category Computation and Estimation

Topic Recalling basic addition facts and corresponding subtraction facts

Materials

- 11 x 17 inch colored construction paper
- Scissors
- 3 x 5 inch index cards
- Pencils, markers, crayons
- Glue
- Manipulatives (if needed)

Vocabulary

number sentence, fact family, related fact, add, addition, addend, sum, difference, equal,
symbols: +, −, =

Student/Teacher Actions (what students and teachers should be doing to facilitate learning)

1. Tell students a story about Related Facts. “Once upon a time, there was a town known as Numbertown. The Number Five relatives lived on Fifth Street in Numbertown.” Stop and discuss what relatives are and how they *relate* to a family; then, continue the story. “They lived in a big two-story house. Mother’s favorite room was the living room downstairs. Father’s favorite room was the dining room, which was next to the living room. Brother’s favorite room was his bedroom upstairs on the left side of the house, and sister’s favorite room was her bedroom on the right side of the house next to her brother’s room.”
2. Ask students to name two numbers (addends) that when added together, have a sum of 5, for example, 2 and 3. These numbers are going to be the Number Five relatives’ house number: 235. Tell students only these three numbers are used because they are the only members that belong. You cannot add any other numbers because only 2, 3, and 5 belong in this house.
3. Tell students you will now guide them in making a related fact house. Distribute sheets of construction paper, and show how to fold a sheet in half vertically. Then, show how to hold the folded edge in the left hand and fold the upper right corners over to the folded edge, making a triangle. Crease. Tell them to open up the crease, and guide them in cutting along the crease line. When the sheet is opened up, it will look like a house with a triangular roof.
4. Model as you have students write the addition fact $2 + 3 = 5$ in the upper left area of the “house”—brother’s room. Guide students in writing the “turn-around” fact $3 + 2 = 5$ in sister’s room in the upper right area of the house.
5. Have students draw a front door in the middle of the related fact house.

6. Moving downstairs to the dining room on the left of the central front door, ask students to write a subtraction fact that would go with this related fact. Ask what number they must start with, and ask them to explain why. (If students do not understand, use manipulatives to model.)
7. Have the students move to the right of the front door, and ask them what the turn-around subtraction fact would be. (Again, model with manipulatives if needed.)
8. Students may illustrate/decorate their related fact houses with window boxes holding five flowers each, curtained windows with five polka dots on each curtain, five vines growing up the front of the house, etc. On the front door should be the house number, 235. Have students write across the roof their name followed by Related Fact House (i.e., Juan's Related Fact House).

Assessment

- **Questions**
 - "How are the numbers in the fact related? Why can't other numbers be included?"
 - "How many different related fact houses could you make that have 6 as the greatest number? How can you make sure you include all the related facts for 6?"
- **Journal/Writing Prompts**
 - "Write a fact family that includes the number of the day (or any number). Represent it, using pictures. Tell a friend about your representation."
 - "Explain how the numbers in the fact are related. What is special about their relationship? Give an example."
- **Other**
 - Circulate around the classroom as students begin making their houses, offering assistance as needed, answering questions, and noting students' successes or failures.

Extensions and Connections (for all students)

- Assign students different sums with which to make related fact houses. Give two students 6, two others 7, etc. Have them work independently or in pairs. Create a huge mural on which students will make a neighborhood with their houses on each street. (This can be related to study of mapping skills and community in social studies.)
- List all the addends for a number, recording the various combinations in an ordered fashion on a chart as they are presented: for example, for the number 11, $0 + 11$, $1 + 10$, $2 + 9$, $3 + 8$, etc. Have students discuss any patterns that they see, and also note whether any combinations were not recorded. Ask whether this pattern exists for all numbers.
- Discuss how having a zero in the fact family (as one of the addends) looks different than a fact family with 3 digits. Also, explore number sentences created by two addends that are the same, e.g., $4 + 4 = 8$.

Strategies for Differentiation

- Allow students to use plastic linking cubes, dominoes, or other manipulatives to help them visualize the relationship between the numbers in the related facts.
- Have students work with increasingly larger numbers as they master the smaller ones.